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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/616,882

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Kamlesh Rath

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EXAMINER

GONZALEZ, AMANCIO

ART UNIT

PAPER NUMBER

2617

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/616,882	Applicant(s) RATH, KAMLESH	
	Examiner AMANCIO GONZALEZ	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 24 is objected to because of the following informalities: Claim 24 seem to have been numbered by mistake as Claim 246; but for the purpose of examination, it has been considered as Claim 24.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-4, 7, and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Majidi -Ahy (US Pat 7158784), hereafter "Majidi," in view of Kay et al. (US 6836515 B1), hereafter "Kay," further in view of Bandeira et al. (US Pat 6728514), hereafter "Bandeira."

Consider claim 1 as amended. Majidi discloses:

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a mesh access network (see col. 8 lines 51-67) comprising:

at least one base-station comprising a plurality of sectors (see the abstract, col. 2 lines 3-34, col. 3 lines 32-38, col. 4 lines 19-24, col. 5 lines 9-18, figs. 1-5);

each sector comprising of a plurality of terminal nodes, said terminal nodes comprising a plurality of repeaters (*terminal nodes read on premises equipment* -see the abstract, col. 2 lines 23-26, col. 3 lines 49-58, col. 4 lines 15-18, col. 5 lines 12-14, col. 8 lines 55-67).

But Majidi does not disclose indoor and outdoor terminal nodes; or wherein said base-station sectors use different frequency bands that are located in alternate sectors of said base-station; or a module for interference management and sector reuse comprising network management of frequency, time, and directionality.

Kay, in related art, discloses:

indoor and outdoor terminal nodes (*indoor and outdoor terminal nodes read on indoor and outdoor units* -see col. 10 lines 66-67, col. 11 lines 1-24, col. 12 lines 1-11, fig. 2 elements 202, 206, 212, and 218);

wherein said base-station sectors use different frequency bands that are located in alternate sectors of said base-station (see col. 16 lines 40-57);

a module for interference management and sector reuse comprising network management (*module reads on equalizer* -see col. 3 lines 54-55, col. 17 lines 8-23, col. 15 lines 43-46, col. 74 lines 61-67, col. 75 lines 1-6).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Majidi and have it include indoor and

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outdoor terminal nodes, base-station sectors using different frequency bands that are located in alternate sectors of said base-station, a module for interference management and sector reuse, and network management, as taught by Kay, thereby providing means for enhancing quality of service -QoS- for data access in a wireless broadband utilizing a cell-based point-to-multipoint system or for a mesh multipoint-to-multipoint topology.

But the combined references of Majidi and Kay do not disclose management of frequency, time, and directionality; or wherein said nodes in each sector are arranged in a tree structure starting from said base-station; or wherein each of the plurality of terminal nodes comprises an antenna.

Bandeira, in related art, discloses:

management of frequency, time, and directionality (*management* reads on *use of* and *directionality* reads on *directional diversity* –see col. 2 lines 62-65, and col. 3 lines 16-21); wherein said nodes in each sector are arranged in a tree structure starting from said base-station (see col. 3 lines 35-59, col. 6 lines 27-36, col. 13 lines 63-67 and col. 14 lines 1-16, figs. 1 and 2); and wherein each of the plurality of terminal nodes comprises an antenna (see col. 3 lines 52-67).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined inventions of Majidi and Kay and have it include nodes arranged in a tree structure and wherein each of the plurality of terminal nodes comprises an antenna, as taught by Bandeira, thereby providing means for

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efficiently transferring large amount of multimedia content between various remote locations and a central location, as discussed by Bandeira (see col. 1 lines 13-28).

Claim 19 addresses the same subject matter as claim 1, therefore same rejection applies.

Consider claims 2 and 7, Majidi, as modified by Bandeira, teaches claim 1 above, and Majidi further discloses base station and repeaters (see Majidi: see abstract, col. 2 lines 23-26, col. 4 lines 15-18).

Consider claims 3, 4, 13-18, 21, 22, and 31-36. Majidi, as modified by Bandeira, teaches claims 1, 2, 19, and 20 above respectively; Majidi further discloses a multi-sector cell and time-slot –TDMA– system (see Majidi: col. 8 lines 51-67, col. 10 lines 31-36); and Bandeira further discloses several level of repeaters (see Bandeira: col. 9 lines 63-67 and col. 10 lines 1-4).

Consider claims 12 and 30, Majidi, as modified by Bandeira, teaches claims 1 and 19 above, and Bandeira further teaches tree-structured network (see col. 3 lines 35-59, col. 6 lines 27-36, col. 13 lines 63-67 and col. 14 lines 1-16, figs. 1 and 2).

4. Claims 5, 6, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Majidi -Ahy (US Pat 7158784), hereafter “Majidi,” in view of Kay et al. (US 6836515 B1), hereafter “Kay,” further in view of Bandeira et al. (US Pat 6728514), hereafter “Bandeira,” as applied to claims 1 and 19 above, further in view of Bustamante et al. (US Pat 5809431), hereafter “Bustamante.”

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Consider claims 5, 6, 23, and 24. Majidi as modified by Kay and Bandeira teaches claim 1 above, but does not explicitly refer to frequency reuse.

Bustamante, in related art, discloses frequency reuse (see col. 6, lines 26-40).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined inventions of Majidi, Kay, and Bandeira and have it include frequency reuse, as taught by Bustamante, thereby providing a frequency reuse scheme in a cellular network for the purpose of increasing capacity and minimizing interference.

5. Claims 8-11 and 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Majidi-Ahy (US Pat 7158784), hereafter "Majidi," in view of Kay et al. (US 6836515 B1), hereafter "Kay," further in view of Bandeira et al. (US Pat 6728514), hereafter "Bandeira," as applied to claims 1, 7, 19, and 25 above, further in view of Ngan et al. (US Pat 6973312), hereafter "Ngan."

Consider claims 8, 9, 26, and 27. Majidi as modified by Kay and Bandeira teaches claims 1, 7, 19, and 25 above respectively, but does not particularly refer to increasing capacity adding carrier.

Ngan discloses increasing capacity adding carrier (see col. 1, lines 1-3; col. 5, lines 47-52).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined inventions of Majidi, Kay, and Bandeira and

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have it include increasing capacity adding carrier, as taught by Ngan, thereby providing a frequency plan in a wireless network for the purpose of accommodating a greater number of users in a required moment at a determined coverage area.

Consider claims 10 and 28. Majidi as modified by Kay, Bandeira, and Ngan teaches claims 9 and 27 above, and Majidi further discloses base station and repeaters (see Majidi: see abstract, col. 2 lines 23-26, col. 4 lines 15-18).

Consider claims 11 and 29. Majidi as modified by Kay and Bandeira teaches claims 9 and 27 above; Majidi further discloses a multi-sector cell and time-slot –TDMA-system (see Majidi: col. 8 lines 51-67, col. 10 lines 31-36); and Bandeira further discloses several level of repeaters (see Bandeira: col. 9 lines 63-67 and col. 10 lines 1-4).

Response to Arguments

Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Delaney Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Amancio Gonzalez, whose telephone number is (571) 270-1106. The Examiner can normally be reached on Monday-Thursday from 8:00 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Charles Appiah, can be reached at (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

AG/ag

February 10, 2009

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617